

REMARKS

Claims 1 through 8 are pending in this application. All claims stand rejected.

I. CLAIM REJECTION UNDER 35 U.S.C. § 102

Claims 1, 2, and 6 through 8 were rejected under 35 U.S.C. § 102(e) for alleged anticipation by Jones U.S. Patent No. 5,572,660.

Claim 1

In a previous amendment, all independent claims were amended to embody the teaching of Lee's specification that one-to-one caching was implemented in a RAID-5 system. Both features—one-to-one caching *and* RAID-5—must be contained in the claimed implementation. It is not enough if one OR the other, but NOT BOTH, occur in the claimed system. Thus, one-to-one caching implemented in a RAID-4 system is not within the claims. Nor is one-to-many or many-to-one caching in a RAID-5 system within the claims.

Paper No. 30 maintains that Jones implements one-to-one caching in a RAID-5 system, not just the RAID-4 systems with which Jones clearly is mainly concerned. On p. 6, ¶ 14, several arguments are advanced.

First, the Abstract is invoked because it says each data drive is associated with a dedicated write-through cache and the parity drive is associated with a dedicated write-back cache. Of course, the Abstract says *nothing* of RAID-5. Moreover, the assertion that each drive is associated with a dedicated cache does not exclude each drive being associated with more than one dedicated cache. Reciting presence of “an element” never excludes presence of two or three or more elements, in patent drafting. The Abstract proves nothing.

Second, Jones Fig. 2D is invoked. Paper No. 30 states: “Figure 2D clearly shows one cache for each disk; it would be counter to the teaching of the reference to assume that any cache is connected other than as shown in their one-to one connection.” Nothing documentary is cited to support the claim of what the supposed “teaching of the reference”

is. Fig. 2D with equal logic is merely illustrative and not exclusive. Also it has ellipsis (...) between the caches and between disk drives. What goes in the ellipsis is left to the imagination of the viewer. Fig. 2D contains nothing that expressly excludes one-to-many connections, such as a cache unit with multiple disk drives or *vice versa*. All one can do with Fig. 2D is offer speculation. It does not expressly speak to the issue in controversy here. Paper No. 30's reliance on Fig. 2D therefore does not satisfy the requirement of substantial evidence, per *In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001) ("With respect to core factual findings in a determination of patentability" PTO "must point to concrete evidence in the record" and "cannot simply reach conclusions based on its own understanding or experience").

What is more to the point than Fig. 2D is the text of the specification. That is where one would look for Jones to state what he proposes to teach. Jones discusses Fig. 2D and RAID-5 in column 10, starting at line 7. Significantly, Jones says nothing about maintaining a one-to-one caching scheme for RAID-5 in the implementation described. Thus, Jones says:

...[T]he parity information is stored and distributed among the plurality of disk drives 214-1 through 214-8 according to a level 5 RAID approach. As such, a plurality of cache units 254-1 through 254-8 are coupled between array scheduler 210 and disk drives 214-1 through 214-8. The cache units 254-1 through 254-8 are partitioned and configured such that a write-through caching scheme is carried out when array scheduler 210 writes real data to a selected disk drive and such that a write-back caching scheme is carried out when array scheduler 210 writes parity information to a selected disk drive.

There is not a word about one-to-one in that passage.

Lee respectfully submits that all we have is conjecture to support the claim that Jones teaches one-to-one caching in a RAID-5 system, per Lee's invention as disclosed in his specification. Accordingly, Lee respectfully relies on the command of the Federal Circuit's recent decision in *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). That decision insists on specificity and documentation. It does not permit speculation and conjecture. It does not permit so-called common knowledge or the introspection of the Examining Staff. It demands

substantial evidence on the record. See also *In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001) (“With respect to core factual findings in a determination of patentability” PTO “must point to concrete evidence in the record” and “cannot simply reach conclusions based on its own understanding or experience or on its assessment of what would be basic knowledge or common sense”), to the same effect. Under those decisions, the rejection here is unsupported and therefore must be withdrawn.

Claim 2

Claim 2 depends from claim 1 and is patentable because the base claim is patentable.

Claim 6

Claim 6, like claim 1, has limitations of RAID-5 and one-to-one caching (each of said plurality of caches respectively coupled operatively to a corresponding single unique one of said plurality of disk drives). Therefore, the remarks made as to claim 1 apply here and are incorporated herein by reference.

Claim 7

a. § 112 ¶ 6 issues

Paper No. 30 states as to claim 7, among other things (p. 6, ¶ 14):

Applicants have argued that Jones does not teach a unique one cache corresponds to a unique one disk, in a one-to-one caching for a RAID 5 system. ... It is further noted that this argument is not supported by the language of claim 7.

Lee respectfully submits that the language of the claim supports the argument because the claim is in step plus function format. The body of claim 7 reads: “*the improvement comprising* a step for reducing overhead during a read operation for data recovery and thereby improving data input-output performance.” That is entirely functional language invoking § 112 ¶ 6.

Under § 112 ¶ 6, such a claim must interpreted during prosecution to import into the claim, by virtue of § 112 ¶ 6, the corresponding acts and structure of the part of the specification corresponding to the recited function. *In re Donaldson Co.*, 16 F.3d 189, 29

U.S.P.Q.2d 1845 (Fed. Cir. 1994)(en banc). That, in turn, means that claim 7 incorporates therein a structure wherein a unique one cache corresponds to a unique one disk, in a one-to-one caching relation for a RAID-5 system. *Chiuminatta Concrete Concepts v. Cardinal Indus., Inc.*, 145 F.3d 1303, 46 U.S.P.Q.2d 1752 (Fed. Cir. 1997).

Paper No. 30 also states (p. 4, ¶ 7) that Jones anticipates Lee because Jones “teaches a step for reducing overhead during a read for data recovery by avoiding the need to access the disk two times when the required data is in a cache.” and language similar to that just quoted constitutes the recited function of claim 7 (which is quoted above, two paragraphs back). Lee respectfully submits that this reasoning in Paper No. 30 is incorrect because it is not enough for § 102 purposes that the reference performs the same function as the claim recites. The Federal Circuit has held it error to assume that two structures are the same or equivalent simply because they perform the same function. *Roton Barrier, Inc. v. Stanley Works*, 79 F.3d 1112, 1126-27 (Fed. Cir. 1996); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987) (en banc) (“Pennwalt erroneously argues that, if an accused structure performs the function required by the claim, it is per se structurally equivalent”), *cert. denied*, 485 U.S. 961 (1988). Infringement (or anticipation) is found only if the claimed function is performed by either the same structure (or acts) that the specification describes or else by an equivalent of the structure (or acts). *Texas Instruments Inc. v. United States Int’l Trade Comm’n*, 805 F.2d 1558, 1562, 231 USPQ 833, 834-35 (Fed. Cir. 1986).

Since that is not true here, it does not matter that Jones teaches a step for accomplishing the same function. In this regard, Lee respectfully points out also that it would not be enough for anticipation even if Jones reduced overhead “by avoiding the need to access the disk two times when the required data is in a cache.” Jones would have to perform this function in substantially the same way as Lee does. Jones does not do these things in substantially the same way as Lee, and therefore Jones does not anticipate Lee.

b. All elements rule

Claim 7, like claim 1, has limitations of RAID-5 and one-to-one caching. Therefore, the remarks made as to claim 1 apply here and are incorporated herein by reference.

Claim 8

Claim 8 depends from claim 7. Thus if claim 7 is not anticipated neither is claim 8.

II. CLAIM REJECTION UNDER 35 U.S.C. § 103

Claims 3 through 5 were rejected under 35 U.S.C. § 103(a) for alleged obviousness over Jones in view of Holland *et al.* U.S. Patent No. 5,455,934. As discussed above regarding claim 1, Jones does not teach use of one-to-one disk caching in a RAID-5 system, and such remarks are incorporated herein by reference. Holland does not supply the limitation. All elements must be in the combination of references under § 103 just as they must be in the single reference under § 102. This lack undermines the obviousness rejection of claims 3-5.

Claim 3

Since Lee's Paper No. 29 was filed, and possibly after the examiner prepared Paper No. 30, the Federal Circuit's decision in *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002), has become available. Lee therefore respectfully requests the examiner to reconsider the issue of combination of references in the light of the Federal Circuit's very recent decision in the *Lee* case, *supra*.

In that case, the Federal Circuit emphasized the need for specificity in documentation relied upon for a teaching, suggestion, or motivation to combine two or more references for purposes of § 103. Generalities will not do. Thus the Federal Circuit said (277 F.3d at 1343, citations omitted):

The factual inquiry whether to combine references must be thorough and searching." It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. [Collecting cases.] The need for specificity pervades this authority.

The Federal Circuit then rejected the PTO statement of motivation to combine, because it was too general and thus inadequate; also it used the advantages taught in the specification to justify making the combination of references. The court said (*id.* at 1343-44):

...[N]either the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."

The present rejection is very much like that condemned in the above-cited *Lee* case. First, ¶ 11 of Paper No. 30 concedes, "As to claim 3, Jones does not disclose that the information needed for data recovery is sequentially arranged from the most outer cylinder." Then, ¶ 11 continues, "However, it is well known that the sequential nature of disk access invites a transfer mechanism sequentially from some position, thus improving performance by reducing seek time." No citation is given to support this assertion. Yet the Federal Circuit in *Lee* held that the determination of obviousness "could not be resolved on subjective belief and unknown authority." Also, it said (*id.* at 1344), "common knowledge and common sense" are not sufficient to support making an obvious rejection by combining references. Rather, substantial evidence documented in the record are essential. See also *In re Zurko*, 258 F.3d 1379, 1385-86 (Fed. Cir. 2001) ("With respect to core factual findings in a determination of patentability" PTO "must point to concrete evidence in the record" and "cannot simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense"). This alone would require

withdrawal of the rejection.

In addition, the rejection goes on (see ¶ 11) to say that Holland teaches that “arrangement of information on a disk from the outermost cylinders results in higher sustained data transfer rates.” (This assumes without stating it that an artisan would be motivated to combine the teachings of Holland with those of Jones, but no record showing of motivation as yet has been provided.) Then ¶ 11 goes on to state:

It is clear from Jones at column 2 lines 34-58 that the accessing of the parity data in RAID systems limits the performance of these systems, and therefore the advantage of faster access due to reduced seek time, and higher sustained data rates would have motivated an artisan to arrange this information from the outermost cylinder. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to sequentially arrange the recovery information from the most outer cylinder in Jones, because this method reduces seek time, results in higher sustained data rates, and therefore improves performance.

But this is just the sort of bootstrapping that the Federal Circuit forbade in *Lee*. The rejection in ¶ 11 takes the advantages of the instant invention as taught in its specification, and uses them as supposed support for making the combination of references. But *Lee* says you cannot use that which the inventor taught against its teacher. You have to supply the justification for combining the references *before* you combine them to develop the motivation or suggestion; you cannot operate in the reverse direction.

Thus the statement in ¶ 11 of Paper No. 30 that—“Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to sequentially arrange the recovery information from the most outer cylinder in Jones, because this method reduces seek time, results in higher sustained data rates, and therefore improves performance” follows a chain of impermissible speculations and bootstrap use of the instant specification's teachings as the basis for combining the references, instead of finding an independent justification to combine the references before proceeding to combine their teachings.

It is therefore respectfully submitted that the instant rejection should be withdrawn in the light of the Federal Circuit's recent *Lee* decision.

Claim 4

This claim depends from claim 3.

Claim 5

This claim depends from claim 4.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Lee's attorney.

No fee is incurred by this Response.

Respectfully submitted,



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